

Nigro-cærulea, rude et vage punctata. Mesothorax dorso antice haud lineâ mediâ longitudinali impressus, parapteris laterali-bus tamen distinctis. Metathorax ut in *C. compressa* striatus, angulo apicali utrinque in tuberculum parvum acutum pro-ducto. Abdomen concolor, rude punctatus, apice griseo-villosum. Pedes cyanei, femoribus magis cæruleis; tarsis nigris, articulo 4to lobato, minori tamen quam in speciebus reliquis. Alæ fuscescenti-hyalinæ, nubila subapicali obscu-riori in cellula marginali, 2a et 3a subapicalibus et ad angulum analem extensa.

Another species received from the banks of the river Gambia by the Rev. F. W. Hope in great numbers, appears to have been figured by Guérin under the name of *Ampulex compressiventris*, in the *Iconographie du Règne Animal*.

The typical species, *Am. compressum*, is, I believe, identical with the *Sphex rufilumbis* of Lichtenstein.

The European species figured by Jurine ought evidently to con-stitute a distinct subgenus; the armature of the head, the different arrangement of the veins of the wings as figured in outline by Jurine, and the elongated and apparently simple feet, are charac-ters distinct from those of the true species of *Chlorion* proper.

XXXVI. *Description of a new Genus of Apterous Hexapod Insects found near London.* By J. O. WESTWOOD, Esq., F. L. S.

[Read February 7, 1842.]

At the November meeting of this Society in 1840, I exhibited drawings of a minute wingless insect, which, as it would not accord with the larvæ of any known group of insects, I was in-duced at the time to think might possibly constitute a new genus of myriapodous insects in an undeveloped state. I had found this insect, which is scarcely a quarter of an inch long, running very quickly amongst the roots of flowers at a little distance below the surface of the ground, in which situation I had also detected immature *Lithobii*, *Juli*, and other *Myriapoda*; and, moreover, finding in this insect a number of minute appendages arranged in pairs on the under surface of the abdominal segments, I at once

compared it with the immature *Lithobii*, whose development I was then investigating, and which, in the very early states of their existence, also presented traces of subabdominal appendages similar to those of my new insect, which appendages are subsequently developed into abdominal legs.

Want of opportunity to examine the entire insect, not having since found another individual, joined with other investigations, induced me to lay aside my drawings and notes until a future opportunity occurred of reinvestigating the insect in nature. The elaborate memoir, however, which Mr. Newport has recently published in the Philosophical Transactions, on the development of the *Myriapoda*, (and which the Royal Society have done honour both to themselves and to its author by selecting as the Bakerian Lecture,) has recalled my attention to the subject, and has convinced me that the insect in question cannot be a myriapodous larvæ, because there are no fewer than seven of these minute subabdominal appendages; and further, because these minute appendages are succeeded by a pair of elongated anal filaments nearly half the length of the body, whereas in the *Myriapoda* the number of slightly developed feet at any one period is much smaller, and because the anal appendages do not appear until the feet are fully developed. Another reason which induces me to reject the idea of this insect being myriapodous consists in the structure of the mandibles, which, as noticed in the Journal of Proceedings of the meeting in question (p. 14), are short, broad, and 4-dentate at the extremity, which is oblique.

Rejecting, therefore, the idea of its myriapodous nature, we have therefore now to determine to which class and order of annulose animals the insect belongs. To do this it will be proper to detail its structural characters.

Corpus elongatum parallelum, depressum, molliusculum, apterum, 13-annulatum. Caput obovatum, distinctum, horizontale. Antennæ duæ capite duplo longiores, ad partem anticam capitis insertæ, multi-(ultra 15-)articulatæ, submoniliformes, articulo basali majori obconico, setosæ. Os inferum mandibulis minutis planis latis, apice 4-dentatis. Partes reliquæ oris deteritæ. Thorax e segmentis tribus proximis constans; segmento 1mo brevi, 2do, 3tioque multo longioribus et latioribus, singulo pari pedum instructo, pedibus (fere dimidii corporis longitudine) e coxa, trochantere, femore, tibia et tarso articulato formatis. Abdomen 9-annulatum, segmentis fere æqualibus et transversis, segmento basali subtus ad apicem utrinque appendiculo brevi lato, ovali plano exarticu-

lato instructo, segmentis sex proximis subtus ad apicem utrinque seta brevi tenui pilosa instructis, segmentoque anali setis duabus valdè elongatis setosis munito.

Were it not for the multiarticulate antennæ and the subabdominal appendages this insect would be to all intents the larva of a *Staphylinus*, and hence I propose for it the name of *Campodea Staphylinus*, founded on this striking resemblance.

Its colour is of a creamy white, and it is exceedingly active in its motions, running with great agility.

Several of the characters which I have described above will be sufficient to separate this insect from the larvæ of all Coleopterous, Lepidopterous, Dipterous, Hymenopterous, Strepsipterous, Orthopterous, and Hemipterous insects. There is indeed considerable resemblance between it and the larvæ of the *Forficulidæ*, but these are not only well known but also disagree with the present in the structure of the anal appendages and in the want of the subabdominal ones. There only remains therefore to compare it with the larvæ of *Neuroptera*, some of which have multiarticulate antennæ and anal as well as subabdominal appendages, but wherever this is the case these appendages are instruments of respiration serving to separate the oxygen from the water in which such larvæ reside: such is the case with the Ephemeroideous, Phryganideous, and Sialideous larvæ. The larva of *Ascalaphus*, it is true, is furnished with lateral abdominal filaments; but these are only prolonged processes of the common integument of the body. I am compelled therefore to reject the idea that the insect is the larva of any hexapod metamorphic insect, and am thence compelled to refer it to the classes of *Annulosa*, which do not undergo transformations. The *Crustacea* and *Arachnida*, from the number of their feet and the general structure of their bodies, are at once distinguished from this insect; and the *Myriapoda* have already been rejected, so that there only remains the orders *Anoplura* and *Thysanura* into which it can possibly enter. These are hexapod groups, the former being distinguished by the non-possession of elongated anal setæ and by the structure of the legs, which are short and strong and well adapted to a parasitic life. Some of the *Thysanura*, on the other hand, are furnished with elongated anal seta, long multiarticulate antennæ, and long cursorial feet. And M. Guérin has recently discovered in *Machylis polypoda* a series of small subabdominal appendages similar to those in my insect, and which he has illustrated in his *Iconographie du Règne Animal*. The *Poduræ* and allied genera, on the other hand, are cylindrical, with an inflexed fork at the end of the body, whilst

in the genera allied to *Lepisma* the body terminates in slender elongated filaments. In these however the number is more than two, and the form of the mandibles is also distinct; but from a review of the general characters of *Campodea* I think it certain that notwithstanding these minor differences it must be considered as a new genus, more nearly allied to *Lepisma* and *Machilis* than it is to any other group of annulose animals.

P.S. On showing my drawings of this insect to M. Gervais he immediately recognized it as one which he had found in the garden of his residence in Paris, further stating that he had discovered a second species of the same group.

Can this insect be *Lithobius pusillus*\* of Van Heyden (Mus. Seck. Bd. 2, 1837, p. 305)?

#### DESCRIPTION OF THE FIGURES.

Plate VIII. fig. 14, upper, and fig. 15, under, side of the insect magnified; fig. 16, under side of the head; fig. 17, apex of antenna; fig. 18, labrum; fig. 19, mandible; fig. 20, an undetermined part of the mouth; fig. 21, 22, maxillæ; fig. 23, portion of base of abdomen beneath; fig. 24, 25, apex of legs.

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XXXVII. *On two Species of Cremastocheilus from Northern India.* By W. W. SAUNDERS, Esq., F.L.S., President of the Entomological Society, &c.

[Read 1st November, 1841.]

Sp. 1. *Cremastocheilus Campbellii*. (Plate XIII. fig. 1.)

Length  $\frac{6}{10}$  inch. From the north of India.

In my own collection.

Head large, depressed, elongate-quadrate, slightly emarginate in front, rounded on the anterior angles, and excavated on the sides to receive the eyes and antennæ. Antennæ situated close to and just in advance of the eyes; ten-jointed, the first joint large, elongate, triangular, the six following small, transverse, and the three terminal ones forming an ovate club when closed. Thorax orbicular, truncate posteriorly, with a slightly depressed longitudinal line down the centre, the upper surface closely and deeply punc-

\* "Weiss, kurz, behaart, am letzten segment zwei horizontale hornchen. Lang  $2\frac{1}{2}$  bis 3 lin. Frankf. in feuchten erde."